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Facilities and diagnostic criteria in sexually transmitted disease clinics in England and Wales

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SUMMARY A study was conducted to collect information from consultants about the facilities and diagnostic criteria used in clinics for sexually transmitted diseases in England and Wales. Most of the information was obtained by personal interview with a response rate of 92%. Half the clinics were open for 10 hours or less a week, the mean length of time for all clinics was 14½ hours a week. Eighty per cent of clinics had a full or part-time contact-tracing service. All the clinics had microscopical and serological services and almost all (99%) had cultural facilities. The policy concerning the most efficient use of these facilities is discussed.

Introduction

The service for sexually transmitted diseases (STDs) is unusual for three reasons. Firstly, a free and confidential service existed for over three decades before the inception of the National Health Service. Secondly, unlike any other hospital-based service, apart from Accident and Emergency, an 'open door' policy is maintained and patients are encouraged to attend without being referred by their general practitioner. Finally, the numbers of cases treated in clinics are notified to the Department of Health and Social Security (DHSS). A further important aspect is the willingness of those working in the specialty to examine their own service and clinical practices. This tradition of self-appraisal has been largely channelled through the Medical Society for the Study of Venereal Diseases and the work of the British Co-operative Clinical Group.

The present study was designed to collect information on diagnostic and reporting criteria used by clinics in England and Wales and to compare treatment and management policies. This was seen as a continuation of the tradition of self-appraisal and had two aims. Firstly, to allow individual clinicians to judge their own practices and standards against those of their peers, and secondly, to furnish information that might provide the basis for the development of an improved and, possibly, a more rational service.

'In clinical work, as in other fields, unless information is available about the results of our actions, we do not have the option to make material adjustments to these actions in the future' (Acheson, 1968, unpublished).

Method

All consultant venereologists in charge of STD clinics in England and Wales were approached during the course of the study. A letter explaining the survey and inviting participation was followed by a telephone call to arrange an interview. Most consultants were interviewed personally by one of two doctors (MWA or BHO'C) using a standard questionnaire which had been tested in a pilot survey carried out on a 10% random sample of consultants. It was considered desirable to conduct the interview personally in view of the length and comprehensive nature of the questionnaires, but six were completed by post at the request of either the physicians or the research team. A postal interview was always followed by a telephone call to discuss any problems. Interviews lasted about an hour.

The questionnaire was designed to cover many aspects of organisation and clinical practice. Information was sought on facilities at the clinic and on the diagnostic, treatment, and reporting criteria for five specified diseases (Table 1). Since the amount of data obtained was substantial the study will be reported in a series of papers.

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Results

NUMBER OF CONSULTANTS AND CLINICS

There are 103 consultants in charge of 189 clinics in England and Wales. Ninety-five agreed to take part, a response rate of 92% (Table 2). Eighty-nine (93%) of the interviews were carried out by personal interview and the remainder by post and telephone.

Most clinics were for men and women (Table 3). Of the single-sex clinics, three were held in an exclusively single-sex hospital—one for men and the other two for women.

Table 1 *Survey of sexually transmitted diseases clinics in England and Wales*

Aspects studied	
Clinic facilities	Hours open
	Contact tracing
	Microscopy
	Cultures
	Serology
	General diagnostic criteria
Diagnostic, treatment, and reporting criteria	Gonorrhoea
	Non-specific genital infection
	Trichomoniasis
	Herpes genitalis
	Candidosis

Table 2 *Number of consultants and clinics in survey*

	Consultants	*Clinics*
Number in England and Wales	103	189
Number participating	95	175
Response rate (%)	92	92

Table 3 *Sex of the patients seen in clinics*

Patients	*Clinics*	
	No.	%
Men and women	169	96·6
Women	4	2·3
Men	2	1·1
Total	175	100

CLINIC HOURS

Clinics were open for between one and 49½ hours a week, the mean length of time being 14½ hours and the median 9½ hours. Figure 1 shows that 92 (53%) clinics were open for 10 hours or less a week and that 52 (30%) were open for five hours or less. Rarely was a clinic open all day for five days a week.

Most patients seen in clinics are in full-time employment and are unable to take repeated periods of time off work. It was therefore considered important to find out if clinics took this into account by staying open after 5.0 p.m. and on Saturday mornings. Eighty-one per cent of clinics were open for some time during the week after 5.0 p.m. The period of time varied from half an hour to 10 hours a week. Only 2% of clinics remained open for 10 evening hours weekly, the mean period of time being three hours a week. Only 26 (15.0%) clinics were open on Saturday mornings.

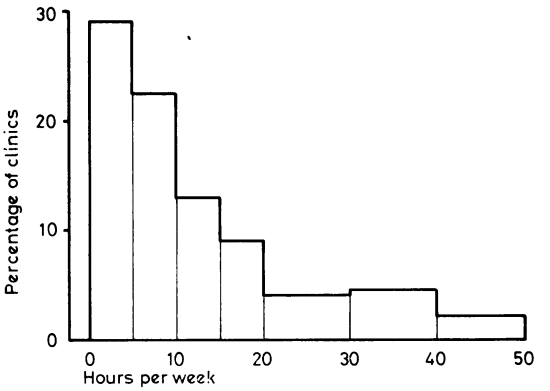

Fig. 1 *No. of hours clinics were open*

CLINICAL RESPONSIBILITIES

Most consultants worked in more than one clinic and some in as many as five (Table 4). Often the doctor had only nursing help. Two of the possible consequences of working in more than one clinic are that a doctor may not be present all the hours that the clinic is open and that, when present, he is unable to cope with the clinical load on his own. In these circumstances it may be necessary for the consultant to delegate some of the duties normally carried out by him to an appropriately trained nurse.

Table 4 *Number of clinics per consultant*

No. of clinics	*Consultants working in clinics*	
	No.	%
1	42	44·2
2	33	34·8
3	14	14·7
4	4	4·2
5	2	2·1
Total	95	100

In 85 (48%) clinics nurses were allowed to see and advise patients; in 24 (14%) clinics this was so if the doctor was absent (Figure 2). In such a case the nurse would tell the patient the times at which the doctor would be available and then advise the patient on the probable nature of symptoms and

any interim measures that should be taken. In 47 (27%) clinics nurses examined and diagnosed patients, in 17 (10%) clinics this occurred if a doctor was not at the clinic. If a doctor was absent the nurse would take the history, carry out the examination and relevant tests, and ask the patient to return for treatment when the doctor was available. In 35 (20%) clinics nurses were allowed to prescribe treatment, in 17 of them this

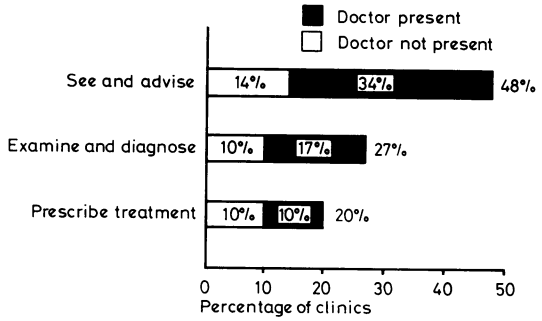

Fig. 2 *Duties performed by nurses at clinics*

was so when a doctor was not present. If the doctor was absent the nurse would examine and diagnose the patient and confer on the telephone with the doctor before instituting treatment. The clinics where nurses examined patients and made a diagnosis were open for a mean of 17 hours a week compared with a mean of 14½ hours for all clinics. The mean for clinics in which nurses prescribed treatment was 19 hours.

CONTACT TRACING

Table 5 shows that as many as 75% of clinics had a full or part-time contact-tracing service, and that only a few (20%) provided a clinical service without the support of contact tracers. Contact tracing was considered to be full-time if it was available during all hours that the clinic was open.

Table 5 *Contact tracing in clinics*

Contact tracing	*Clinics*	
	No.	%
Full-time	110	62·9
Part-time	22	12·6
None	35	20·0
Not known	8	4·5
Total	175	100

Table 6 shows the policy adopted for issuing contact slips for clinics with a contact-tracing service and for those without. There is little difference in the policy of giving slips between the two types of clinics. Information was not obtained about issuing contact slips to patients with syphilis.

MICROBIOLOGICAL, CULTURAL, AND SEROLOGICAL SERVICES

Microscopy

All the clinics had facilities for microscopical examination of Gram-stained slides for gonococci and *Candida albicans* and darkground examinations for *Treponema pallidum* and *Trichomonas vaginalis*. However, in seven (4%) of the clinics for men and nine (5%) of the clinics for women the smears had to be sent to a central laboratory and results were not available at the patients' initial attendance.

Cultures

Almost all the clinics (98·8%) had culture facilities (Table 7). The commonest procedure was to send the specimens to a central laboratory in a transport medium. In the 86 clinics that did this, 75 (87%) used Stuart's medium and 11 (13%) Amies' medium. The next most usual practice was for the staff to inoculate the plates in the clinic and send them to the laboratory. There was rarely a comprehensive laboratory service within the clinic.

Table 6 *Diseases for which contact slips issued*

	Contact-tracing service			
	Clinics with (N=132)		*Clinics without (N=35)*	
Disease	*No.*	%	*No.*	%
Gonorrhoea	126	95	33	94
Non-specific genital infection	83	63	23	66
Trichomoniasis	79	60	23	66
Herpes genitalis	53	40	16	46
Candidosis	49	37	14	40

Table 7 *Culture facilities in clinics*

Facility	*Clinics*	
	No.	%
Send in transport medium	86	49·1
Inoculate plates in clinic	78	44·6
Inoculate and read plates in clinic	9	5·1
None	2	1·2
Total	175	100

Serological tests for syphilis

The survey was not designed to collect detailed information about the diagnosis and treatment of syphilis, but there were questions about the facilities and types of serological tests carried out to exclude syphilis. All the consultants had a serological service available for their use and they were asked to indicate which tests they routinely requested at a patient's first visit, regardless of the possible diagnosis. Many laboratories were able to carry out

a fluorescent treponemal antibody absorption (FTA–ABS) test on specimens giving positive results even though this may not have been one of the initial tests. In most clinics more than one routine test was used; the combinations are shown in Table 8. In 11 (6%) clinics one test was used routinely, in 80 (46%) clinics two tests were used, and 84 (48%) clinics used three or more. The most commonly used combination was the Venereal Disease Research Laboratory (VDRL) and the treponemal haemagglutination (TPHA) tests (33 (19%) clinics), followed by the VDRL with the Wassermann reaction (WR) and Reiter protein complement-fixation test (RPCFT) (31 (18%) clinics).

Table 8 *Combinations of routine serological tests performed in clinics*

Combinations of tests	*Clinics*	
	No.	%
VDRL	7	4·0
TPHA	2	1·1
WR	2	1·1
VDRL/TPHA	33	18·8
VDRL/FTA	4	2·9
VDRL/WR	9	5·2
VDRL/RPCFT	12	6·8
TPHA/FTA	2	1·1
TPHA/WR	1	0·6
TPHA/RPR	2	1·1
TPHA/RPCFT	1	0·6
FTA/RPCFT	1	0·6
WR/RPCFT	15	8·5
VDRL/TPHA/FTA	14	8·0
VDRL/TPHA/WR	3	1·7
VDRL/TPHA/RPR	1	0·6
VDRL/TPHA/RPCFT	5	2·6
VDRL/FTA/RPCFT	2	1·1
VDRL/WR/RPCFT	31	17·7
TPHA/WR/RPCFT	8	4·6
WR/RPR/RPCFT	2	1·1
VDRL/TPHA/WR/RPR	2	1·1
VDRL/TPHA/WR/RPCFT	9	5·1
VDRL/WR/RPR/RPCFT	2	1·1
VDRL/TPHA/FTA/WR/RPCFT	4	2·3
VDRL/TPHA/WR/RPR/RPCFT	1	0·6
Total	175	100

Although all clinics had a serological service available the doctors use of it varied (Table 9). In 10 (6%) clinics routine tests were performed only on selected patients for whom there were specific reasons. These reasons were the necessity to exclude syphilis if the patient had suggestive signs and symptoms, if sexual intercourse had taken place within the incubation period, or if the patient was homosexual or judged to be promiscuous.

More important than the failure of doctors in a few clinics to carry out initial serological tests was the number who did not later repeat the tests. In four (2%) clinics tests were never repeated and only 79 (45%) clinics of those performing serological tests would tests be repeated as a routine. In most clinics there had to be a specific reason for doing further serological tests at follow-up visits (Table 10). The most common reason was that the patient was a possible syphilis contact or had symptoms suggestive of this disease at the first consultation. In 53 clinics only one of the listed reasons was given for asking patients to return; 20 gave two and 19 clinics identified three or more possible reasons.

Table 9 *Serological tests—policy of clinics*

	First visit		*Follow-up visit*	
Policy	*No.*	%	*No.*	%
Tests on all patients	165	94·3	79	45·1
Tests on selected patients	10	5·7	92	52·6
Tests never performed	—	—	4	2·3
Total	175	100	175	100

In the clinics which repeated serological tests on all or selected patients, 46 (27%) did the last test less than three months after the patient's history of initial exposure. However, in most clinics the last test was performed three months or later.

Table 10 *Reasons given by 92 clinics for repeating serological tests on selected patients*

	Clinics	
Reason	*No.*	%
Possible syphilis contact or symptoms of syphilis	46	50·0
Treated STD apart from syphilis	33	35·9
Sexual intercourse within last three months	10	10·9
Contact of other STD apart from syphilis	10	10·9
Homosexuality	20	21·7
Promiscuity	21	22·8
Other	13	14·1

SYMPTOMLESS PATIENTS

The papers that follow will report on clinical practice in relation to specific diseases. It is intended to describe here only the management of symptomless patients having sexual intercourse who presented for a check-up and who were not named contacts. Table 11 shows the sites from which samples were routinely collected in these patients. In most clinics samples were taken from the principal exposure sites. In passive homosexual patients this was the rectum and in women it was the urethra, cervix, and vagina. In heterosexual men the urethra was sampled routinely in only 58% of clinics and in active homosexual men in only 63% of clinics. However, in the clinics which did not take urethral specimens a two-glass urine test was routinely carried out.

Another feature of the assessment of symptomless patients was to find out whether investigations were

Table 11 *Sites from which samples routinely collected in symptomless patients presenting to clinics for check-ups*

Patients	*Sites*	*Clinics**	
		No.	%
Men			
Heterosexuals			
	Urethra	99	57·9
Active homosexuals			
	Urethra	108	63·1
	Rectum	82	47·9
Passive homosexuals			
	Rectum	166	97·0
	Urethra	69	40·3
Women			
	Urethra	169	97·9
	Cervix	172	99·4
	Vagina	160	92·5

*171 clinics for men, 173 for women

repeated and, if so, on how many occasions if they had initially been negative. Table 12 shows that in most clinics attempts were made to see patients on at least a second occasion. Heterosexual men were less likely to be seen again. Of those clinics in which investigations were repeated, one-third did so only in selected instances—if the patient was promiscuous or homosexual, lived locally, or for reasons relating to the time interval between the last sexual intercourse and the initial tests.

Table 12 *Number of further occasions that tests were repeated in symptomless patients presenting for check-ups in whom initial tests were negative*

No. of times repeated	*Clinics for men*							
	Hetero-sexuals		*Homosexuals*					
			Active		*Passive*		*Clinics for women*	
	No.	%	*No.*	%	*No.*	%		
None	53	30·9	30	17·5	24	14·0	22	12·7
1	66	38·6	59	34·5	58	33·9	65	37·6
2	35	20·5	35	20·5	36	21·1	38	21·9
3	7	4·1	31	18·1	37	21·6	36	20·8
>3	8	4·7	14	8·2	14	8·2	10	5·8
Not known	2	1·2	2	1·2	2	1·2	2	1·2
Total	171	100	171	100	171	100	173	100

QUARTERLY RETURNS

There are two steps in the completion of the quarterly returns for the DHSS; the first is making the definitive diagnosis from the notes and the second is the completion of the appropriate form (SBH 60). Table 13 shows which person was responsible for making the diagnosis and for supervising the completion of the returns. The senior doctor or director of the clinic was usually responsible for making the definitive diagnosis. However, the supervision of the completion of the returns was equally likely to be the doctor or the clerk/receptionist or the nurse/orderly/contact tracer.

Table 13 *Quarterly returns*

Individual responsible	*Making the definitive diagnosis*		*Supervising the completion*	
	No.	%	*No.*	%
Senior doctor or director	135	77·1	55	31·4
Junior doctor	5	2·8	1	0·6
Doctor seeing patient	8	4·6	0	0·0
Clerk or clinic receptionist	12	6·9	58	33·1
Nurse, orderly, or contact tracer	15	8·6	61	34·9
Total	175	100·0	175	100·0

Discussion

CLINIC HOURS AND SUPPORTING STAFF

Compared with other countries the service for sexually transmitted diseases in England and Wales is excellent. However, comparisons such as these may obscure the important issues facing the service in this country and generate inertia. It is salutory to note that the main problem facing the STD service today is exactly the same as that found when facilities for diagnosis and treatment were first established by the Venereal Disease Regulations of 1916—namely, a large increase in numbers of patients, a shortage of staff, and inadequate facilities. Catterall and Morton (1970) and Catterall (1973) have drawn attention to this and commented on the overcrowding in clinics, lack of new purpose-built facilities, long hours worked by consultants and other staff, and the difficulties in recruiting medical and ancillary staff.

The present study has revealed that half the clinics are open for 10 hours or less a week and that one-third are open for five hours or less. In 1968, 71% clinics were open for less than 10 hours a week (British Co-operative Clinical Group, 1971) and there has therefore been an improvement since then. Patients with STD should be seen as soon as possible after the development of symptoms. Anything that discourages this, such as having to wait several days before a clinic is open or having to travel long distances to another clinic, can make all the difference in controlling disease.

The supporting services are vitally important in the management of STDs. It has been pointed out that the nursing staff carry out many of the clinical and clerical duties within clinics. As long as the nurses are adequately trained this delegation would appear to be acceptable. The job of the clinical nurse has been reviewed recently by the DHSS and the Welsh Office. The circular shows an appreciation of the changing role of the nurse and encourages the delegation of work 'which has hitherto been carried out by doctors' but only after adequate and appropriate training (Department of Health and Social Security, 1977). The General Medical Council

(1977) has published revised guidelines on professional conduct and recognises the contribution that can be made to health care by nurses and other persons who have been trained to perform specialised functions.

Another important supporting service in the control of sexually transmitted diseases is contact tracing (Wigfield, 1972; Harris, 1975). The findings that 75% of clinics had the support of a full or part-time contact-tracing service is encouraging. In the remaining 20% of clinics it is hoped that doctors or nurses carry out this duty. Certainly most clinics (94%) without such a service did issue contact slips to patients with gonorrhoea. Dunlop (1963) studied the effectiveness of contact slips in controlling gonorrhoea and reported that this method was inadequate and advocated that specially trained contact tracers should be used. The absence of these trained staff in 20% of clinics in England and Wales places an additional workload on already busy physicians and ancillary staff. '. . . the interviewing of patients to obtain the necessary information and to persuade them to help in tracing their own contacts is very time-consuming and cannot be done satisfactorily by busy doctors, already hard pressed in the clinics' (*British Medical Journal*, 1974). Contact tracing is an integral part of the management of STDs and the lack of such a service may result in further spread of disease.

TRANSPORTATION OF CULTURES

It is encouraging that most clinics had a microscopical, cultural, and serological service. Half the clinics sent cultures to the laboratory in a transport medium and Stuart's medium was more often used than that of Amies' (Stuart, 1946; Amies and Garabedian, 1967). In most of the remainder culture plates were inoculated in the clinic and then transported to a central laboratory. In the study of the British Co-operative Clinical Group in 1968 transport media were used in 65% of clinics. At that time the consultants judged that they obtained poor or fair results in 29% of clinics using transport media compared with 19% of clinics using direct plating and transportation. This finding, plus the fact that some loss of organisms may be expected when material in transport medium is subsequently plated, probably accounts for the decline in the use of this method. However, the little scientific work that exists comparing the use of transport media with direct plating is contradictory. Danielsson and Johannisson (1973) compared results in specimens taken from men and women and placed in Stuart's transport medium and later plated on to both a selective Thayer Martin medium and a non-selective medium with specimens transported after direct inoculation on to selective and non-selective media (Thayer and Martin, 1964). They found that the diagnosis of gonorrhoea would have been missed in 3% of women by using Stuart's transport medium with subsequent plating on to a selective medium, compared with direct plating on the same selective medium and then transporting the plates to the laboratory. Hosty *et al.* (1974) reported a larger loss: the use of Stuart's transport medium followed by plating on to Thayer Martin medium resulted in missing 44% of cases, compared with direct plating and transportation. However, they delayed plating from the transport to the definitive medium for 24 hours, which may account for some of this loss. Contrary evidence has been reported by Jephcott (1977) who, in a careful study in this country, showed that Stuart's transport medium was superior to transportation of inoculated plates. In view of this conflicting evidence no change in the current practice of performing and transporting cultures can be justified.

SEROLOGICAL TESTS

Several questions about serological tests for syphils should be asked. These include—What should be the criteria for offering tests? What tests should these be and how often should they be performed? In 94% of clinics routine serological tests were performed on all new patients but in only 45% were the tests repeated as a routine. The most commonly stated reason for repeating a test was that the patient was a possible syphilis contact. Certainly this is a good reason, but as more than one STD is commonly diagnosed in the same patient it might be better to repeat serological tests on all treated patients. If this is not possible this might be done in all cases of treated gonorrhoea, non-specific genital infection, and genital ulceration not already diagnosed as syphilitic in origin.

The clinics used numerous serological tests to exclude syphilis. Consultants were asked to say which they used as a first line routine screening test. In 11 clinics only one test was used (VDRL seven clinics, TPHA two clinics, and WR two clinics). Of these tests the VDRL and WR used alone are of limited value since both are non-specific for antitreponemal antibodies. The TPHA is a specific test, but on its own the titre will not help the clinician to differentiate untreated early syphilis from the patient with residual antibody (O'Neill, 1976). Also in the treated patient, the TPHA titre tends to fall extremely slowly which may cause confusion. Finally, if used on its own, untreated early syphilis can be missed. The TPHA is a cheap, good, and simple test, but it should be used in conjunction with another.

Physicians used a number of combinations of tests, not all of which are equally effective. The most common combination (31 (18%) clinics) was the VDRL test, WR, and RPCFT; in another nine (5%) clinics the VDRL and WR tests were used. None of these tests uses specific antigen and, therefore, has limited diagnostic value. In contrast, some clinics used more tests than were necessary. In 19 (11%) the VDRL test and TPHA were used routinely in conjunction with the RPCFT or with additional tests. The VDRL test and TPHA on their own are adequate screening tests and the addition of the RPCFT adds nothing to the clinician's understanding of the patient's disease, and adds greatly to the workload in the laboratory. A case could be made for reducing the number of tests performed on each sample of serum in such cases and ensuring that a second sample was taken three months after the first.

As stated above, the TPHA alone may miss the patient suffering from early primary syphilis and the same is true for the VDRL. This points to the importance of repeating serological tests at least three months after initial exposure. Unfortunately nearly one-third of clinics who repeated tests did so within three months.

SYMPTOMLESS PATIENTS

Patients who attend STD clinics requesting examination often give a history of recent casual sexual intercourse and are therefore at risk of contracting a sexually transmitted disease. In almost all the clinics rectal specimens were taken from symptomless passive homosexual patients and urethral and cervical specimens from women who asked for examination. This is probably because infection of these sites is less likely to present with overt symptoms than urethral infection. This may account for the fact that in the heterosexual males and active homosexuals who attend for a check-up, fewer consultants were prepared to take specimens from the urethral site. However, in view of the reports of asymptomatic urethral gonorrhoea and non-specific urethritis in men, this policy cannot be justified (Pariser *et al.*, 1964; Thatcher *et al.*, 1969; Rodin, 1971; Fox, 1974; Portnoy *et al.*, 1974; Handsfield *et al.*, 1974; Perera and Lim, 1975). In all the clinics in which urethral tests were not carried out a two-glass urine test was performed, but as Rodin (1971) pointed out, this test is not a reliable diagnostic test in many of these patients. Even if threads are found, the chance of obtaining a specimen for microscopy and culture is lost unless the patient returns, and Perera and Lim (1975) reported that 20% of their patients did not return.

Conclusions

This study has attempted to provide those working in the field of STDs with current information on facilities and clinical practice in England and Wales. It has been reported that clinics are open for more hours a week than 10 years ago and that most clinics have a full or part-time contact-tracing service. Each clinic had microscopical and serological services available and, almost all had cultural facilities. Half of the clinics used transport medium and this seems a justifiable approach in view of present knowledge. However, facilities were not always used in the most optimal way. In some clinics serological tests for syphilis were carried out singly, in inappropriate combinations, not repeated at all, or within three months of the patients' initial exposure. Finally, it has been suggested that urethral specimens might be taken from all asymptomatic male heterosexual and active homosexual patients who present to clinics for examination.

It is realised that many of the inadequacies and inconsistencies of the managment of patients with STDs are organisational and outside the control of the physician. It is hoped that this and the papers that follow will provide the objective basis for those specialising in the management of STDs to discuss their own practices among themselves and with health service administrators with a resulting improvement in the service.

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